



Ø Beat



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No. 5

Welcome Class of 2000!

There is a batch of brand new hams, thanks to the PPRAA ham class taught by Frank McNally KFØWF. According to Linda Hedges KBØRKW, our Technical Education chairperson, it is once again that time of year, to welcome the new hams to the ham community, and to thank the people that are responsible for making this possible. First of all, a big "Thank You" goes out to Frank McNally KFØWF for his tireless work in getting these classes to the aspiring people in our community. Thanks also to Barb NØVBK, his wife, for letting us borrow him for this extended period of time. It is also time to thank Pat Conner KØTSR, Frank's right-hand at these classes, and to Jim Mesite KCØFIB, of the OEM for the use of their facilities so that these classes may be held.

This year's class had an exceptionally large turn out - 45 on the first night. During the first couple of classes there was also a good turnout of current hams from the community in attendance. We should all try to help out during these classes. It was really great to see some of the newer hams from last year's class also in attendance. When the test sessions were completed we had 25 new hams. Here is the list; if you hear them on the air welcome them to the ham community, and if they need help with something, help them out - remember when you were a new ham! *de KBØRKW*

KCØHPR Robert P Lanza	KCØHPY Robert E Isham	KCØHQE Kenneth A Valdez	KCØHQK John S Hasling
KCØHPS Carol C Nelson	KCØHPZ Carolyn S Pelouze	KCØHQF Iley A Pullen Jr	KD5JTA Diane M Martin
KCØHPT David E Nelson	KCØHQA Robert F Mikulas	KCØHQG Cora L Nieman	KCØHHW Sunil Behave
KCØHPU Michael D Weaver	KCØHQB Mark D Richards	KCØHQH Stephen R Anderson	KCØHNW Deborah Leach
KCØHPV James W Albertson III	KCØHQC Rebecca J Sloan	KCØHQI Dutch M Harbert	KCØHHX Timothy Rehorst
KCØHPW Nate P Leach	KCØHQD Raymond J Vigeant	KCØHQJ Sanjay D Naik	KCØHHY Delio Vidal

Dozens of Local Hams Upgrade Under New Rules!

There were many opportunities over the last several months for hams to upgrade since the FCC's Dec 1999 restructure announcement. Test sessions on Apr 8 by the PPRAA, and on Apr 14 by the Mountain ARC in Woodland Park were very busy sessions. Many hams hunkered down to studying for that final upgrade under the old rules, using the old question pool. After all, why waste all of that studying so far? And they don't want to waste the CSCE they earned already for code or written. Many hams were positioning themselves to have wrapped up all the written testing they need for an upgrade to General or Amateur Extra. With the code requirement at 5 wpm, quite a few already had their 5 or 13 wpm out of the way, so it was just a matter of getting a CSCE for the written element. Then, on April 15, it was nearly an automatic upgrade if all the boxes were filled. For example, those holding Advanced tickets prior to April 15 needed to only pass the written 4B, and they could visit the paper-only session and attain their upgrade. Newsline reports that as many as 25,000 new Generals may be on the HF bands in the next 60 days. Here in Colorado, reports Jeff Ryan NØWPA, Asst Section Manager, there were nearly 400 paperwork only upgrades throughout the state, with 107 upgrading at the PPRAA session. Another dozen or so upgraded at the paperwork only session just before the Mountain ARC club met on Apr 19. Many other clubs around the section are doing paperwork only sessions. And of course, there'll be all the normal VE testing sessions at which you can get a paperwork upgrade. The next one is the PPRAA's hamfest. After the hamfest we'll be back to our normal "2nd Saturday of the even numbered months" schedule. Only other thing you have to be careful about is remembering to know your band limits. For example, those of you that recently upgraded to General class are not allowed to operate in the Advanced or Extra portion of the HF bands.

Meetings Our monthly meetings are normally on the 2nd Wednesday of each month at 7 pm at Mount Calvary Lutheran Church, 1318 N. Circle Drive, about 1/2 way between Platte Ave and Constitution Ave on N. Circle. Our Annual meeting is in October.

Regular License Exam Sessions

PPRAA ARRL test sessions on the 2nd Saturday of even numbered months at 9 am at the Denver Technical College, 3245 International Cr, across from Memorial Park. Contact Erik KGØXE for details.

Examinees need to bring (1) \$6.65, preferably a check or money order payable to ARRL/VE; (2) picture ID; (3) the signed original and a copy of your current amateur radio license and CSCCs you have (we keep the copies); and (4) a pen, pencil, and calculator if needed. Memory calculators will be checked.

PPRAA Web Page See it at <http://www.qsl.net/ppraa/>. Thanks to Rick Brown KØSU, our webmaster.

Get on the PPRAA E-mail Reflector

Stay on top of new or short-fused developments. Send e-mail to majordomo@qth.net; within the body type "subscribe ppraanet".

PPRAA Simplex Net All amateurs are invited to join us on Thursday evenings at 7 pm on 146.58 MHz simplex for our club net. Get the latest club and regional happenings!

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*This Officer/Director is completing the second year of the two-year term to which they were elected.

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RACES Officer	John Roberts	KBØVGX	575-8400	kb0vgx@worldnet.att.net

Upcoming Club Programs

May Larry Lewis KØRI will do a program on Contesting
 June working on it



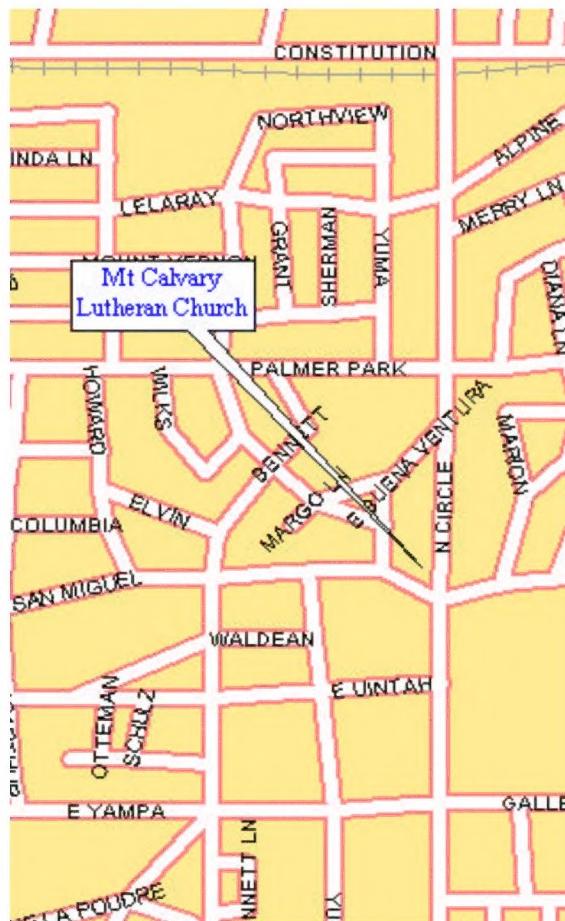
Articles for the Ø-Beat

Deadline for articles or ads is usually the 20th of the month. Submit articles by e-mail, by U.S. Mail to the club's address, or in person to the editor. Editor reserves right to correct for readability, grammar, spelling, length and punctuation.

Nonprofit Organization The PPRAA is a federally recognized 501(c)(3) nonprofit organization and welcomes all contributions. Your contributions/donations may be tax-deductible.

May's Meeting Location

We're back to the normal location! I was actually thinking about publishing a map, it's been so long! I think most of us will eventually remember where we used to meet. But in case you have forgotten, we meet at Mount Calvary Lutheran Church, 1318 N Circle Drive. The church is just about $\frac{1}{2}$ mile south of Constitution on Circle, at the corner of San Miguel. Same time, same 2nd Wednesday. I really was tempted to insert a map to the church -- what the heck! Here's a map! We have a bunch of new hams that may want to stop by! *See you there!*



That Fiftieth State

The dial was set at 14.332, The YL International Single-Sidebander's frequency. I was working for the much desired Moonbeam (afternoon and evening session) Worked All States award, that had started in February of the year 2000. The date was April 9th, 2000. I had been very patiently "getting on the log" nearly every afternoon for two months. You

would think that places like Hawaii, Alaska, Delaware, New Hampshire, or Rhode Island would be the hardest to get. *Wrong!* I listened and listened for Georgia, hardest of them all. Once in a while someone would check in from Georgia, but when my turn for "calls" came, they had mysteriously disappeared into thin air.

As I am one of the System Controls on the first, third and fourth Sundays of the month, I hear lots of others joyously get their fiftieth and final state. I found myself being drawn to the radio so often that my OM Skee NØPRY asked if I was moving into the ham shack area of the family room downstairs.

I would tell him, "I'm sure Georgia will be here soon!"

Finally, on April the 9th, 2214 UTC, just as I was getting ready to shut the rig off for the evening, there was my state. N4VIC, Vic, was "getting on the log" to see who was around. I jumped in there as soon as the control asked for others wishing to make a call for a contact. When it was my turn, I called for N4VIC. He returned my call and we exchanged signal reports and SSB numbers. Then the best part happened: I asked him for his QTH. He was sitting in his private plane on the tarmac at the Atlanta airport, waiting for his turn to get the go-ahead to take off. He had just turned his HF radio on to see who was on the System. I was so excited that he had decided to turn his radio on while he was still on the ground. Finally, my Worked All States for the Moonbeam was finished. What a happy day, I was happier getting that contact than I would be if I had won the lottery!

The YL System is a great place to make friends as well. I have been a member for a few years now. I really enjoy all the great contacts from all over the world. My HF skills have improved greatly thanks to all the wonderful hams that are there every day on the System. Now I just have to listen for mobiles to finish my Mobile award! It will happen someday I am sure! *de Ginger NØUOD*

[I'm looking for stories about your ham radio experiences. Tell us about your experiences on the air or building an antenna. New packet station? APRS? Break through a DX pile-up? We'd like to know. Send your stuff to the editor. de N7LV]

PACTOR on the High Seas

One brand new ham got more than his feet wet, I'm sure, during his sea voyage which was to last a fortnight. Tom Shukay KCØHFC received his license this past February because he knew this trip was coming and he was going to need some kind of communications. Apparently he had looked into satellite communications, but the cost was too high. Tom has a technical background and getting a ham license was fairly easy for him. At least one of the other folks he traveled with also has a ham license.

I had the pleasure of meeting Tom at our company's Christmas party last year, since at that time his wife Suzan worked where I work. Tom is retired military, and worked a few more years doing technical work with defense contractors. Some time in the past few years, his yearning for the sea must've really got to him, as he decided to put life as we know it on hold, buy a 40-ft sailboat, and head for open waters.

Tom's voyage began on Mar 15 from Southern California. The first couple of days were fairly uneventful, 20-30 kt winds, and 10-25 ft swells. Using weather instruments, GPS, and other navigation equipment, they stayed to the south of several storms over the Pacific. Tom was very appreciative of his new SSB setup, which was configured for PACTOR on HF. He was daily relaying a log of their situation via packet radio, and communicating with his wife via e-mail through an HF packet gateway. Once he got used to typing into a laptop on a rolling sea, the messages were flowing about every other day throughout the trip. There were times, though, when it was difficult to find a frequency with the right propagation characteristics to get them into the gateway.

At one point he saw his first sign of life on the planet since departing: a floating sofa chair. (I didn't say he saw life, just a sign of it.) A couple of the days were so calm that they actually had to run the motor, something sailors are not particularly fond of doing. For the most part, though, they could get about 10 kts, averaging about 140 miles per day, driven by the sails.

Only a day away from Hawaii, they spotted their first sign of "real" human life: the Navy ship Navajo. They spoke with the crew on VHF, probably marine band instead of ham band. The sailors had picked up the ship on radar as it cleared the horizon. The trip ended on Apr 1 when they arrived at the Ala Wai Harbor and were greeted with tremendous hospitality by the Hawaiian Yacht Club. It sounded like quite a trip. Ham radio played an important part in their trip, even if only to send back logs every so often. It could easily have become a lifesaving tool if the need arose. Tom's an accomplished sailor, and had an experienced crew aboard. For them, it was likely a dream come true. For us, it's something to dream about. You can read the logs that he did send via HF back to his wife. She diligently posted them to their web site for all to read:

www.highseasresearch.org The trip is only partially complete, though. Tom plans to sail on to Indonesia and New Zealand later this summer, possibly looking at a two-year trip overall. *de N7LV*

Young Ham Places in Science Fair

Sara Witte KCØAMO (daughter of Bob Witte KBØCY) has once again won an award in a science fair. You may recall several years ago that Sara entered a science fair with a project that compared several types of batteries. She was able compare the lifespan of several kinds of batteries. That article was later published in the *Ø-Beat*. In the April 2000 newsletter of the Rocky Mountain Chapter of the Armed Forces Communications-Electronics Association (AFCEA) it's noted that Sara won 3rd place in the senior high school division for her project "Batteries of Another Degree". For this project she won a \$150 savings bond. Unfortunately we currently don't have any details on the project, but may try to get a copy of it published here in the *Ø-Beat*.

National WX Service Tour

A tour of the NWS office in Pueblo is currently being arranged by N7LV for all amateurs interested in weather and/or Skywarn. At the April 1 Skywarn training session, Tom Magnuson KBØZWX, lead weather forecaster at the PUB NWS, offered tours of his facility. He can take up to 15 people per tour, so if more than 15 are interested, we can easily schedule a second (or third) tour. Please contact Rob N7LV (282-0204, n7lv@amsat.org) to sign up. Date and time have not yet been determined. We'll wait until after the April 27

training at the El Paso County OEM before we actually schedule a trip, so it can be offered to the attendees of both training sessions as well as other hams.

PPRAA Hamfest!

Assuming you get this *Ø-Beat* at about the same date of our hamfest, it should be in the history books by now. The only thing I didn't have at press time was a list of the raffle prize winners. I'll have them next month. Thanks again to all those that helped organize and run this mammoth event! As usual, Bob Ryals KIØGF did an outstanding job making it all happen. Thanks, Rails!

In our efforts to keep up with the Joneses, as in the Mountain ARC (not really, but they do come up with some darn good ideas), we also printed address labels for people buying larger quantities of raffle tickets this year. Bill Pierce KDØJU provided the laptop and Epson dot matrix printer. The program was a little address label program written in BASIC many moons ago by Rob N7LV and modified slightly for this purpose. Nothing fancy, but the combination of Bill and Rob's efforts helped slow down the spread of writer's cramp among the local hams.

Other Upcoming Hamfests

- **May 19-21:** Dayton Hamvention, & ARRL National Convention, Dayton OH. Contact Dave Coons WT8W, 937-849-0604, wt8w@arrl.org.
- **Jul 15:** Northern Colorado ARC, Loveland. Contact Michael Taylor N7RKC, 970-203-0609 (evenings), mtaylor@hach.com, www.info2000.com/~ncarc
- **Aug 19-20: Note Date Change !!!** Mountain ARC Campfest, Woodland Park. Contact Wes Wilson KØHBZ, 719-687-8758, wlw@prodigy.net www.qsl.net/nx0g/ Note their raffle will still be Aug 27, held at the QTH of KØHBZ.
- **Aug 20:** Denver Radio Club, Golden. Hamfest & Colorado Section convention. Contact Ron Taylor, KØHRT, 303-989-3978, k0hrt@arrl.net.

General Code/Theory Class in Works

Mike Anderson WV7T is contemplating putting together his own General class (and maybe even an Extra class later) to be offered some time in the future. The club will purchase two MFJ code oscillators for the class. He also may be asking for

assistance with the class in the form of guest speakers, or additional instructors to help with specific topics. There's no definite date set yet, as Mike is still wrapping up the current class he's teaching. If you'd like to help, contact Mike.

Passing the Time

[Ed: Historian Jody Borst KAØROZ is planning to provide material to give us an historical look at our past. In the interim, here are some items extracted from previous Ø-Beats.]

- **15 Years Ago this Month:** Jake NØCYR begins an antenna installation project for ARES this month, including doing an antenna coverage pattern for each antenna.
- **20 Years Ago this Month:** The 6-page *Ø-Beat* shows that the April 13 PPRAA hamfest was in Hangar No. 8 at Peterson AFB, and the PPFMA organized the food concession.

History Mystery

While reviewing the 1991 issues of the *Ø-Beat* I couldn't find the July 1991 issue. I understand during that time period it was common for two months to be combined into a 2-month issue while the editor was on vacation. However, there was no mention of that in any of the *Ø-Beats* within a couple months of July. If anyone can assure me that there was no July 1991 issue and help me solve this mystery, I'd appreciate it. *de N7LV*

Club Gains SB-104 Donation

A local ham has generously donated a Heathkit SB-104 to the club to do with as we please. We could use it as the start of a club station, or we could sell it and add the cash to our club account. Now all we need is to have someone donate the space to set up a club station.

ARRL Offers \$1,000 Award

Bill Pierce KDØJU will head up the club's effort to earn \$1,000 from the ARRL. The ARRL has offered a \$1,000 award, called the Club 2000 Achievement Award. Its purpose is "to reward affiliated clubs who are growing, thriving, and developing good community relations" in several areas. Points are earned by clubs in the areas of emergency/public service participation, public relations/recruitment efforts, increasing ARRL membership, volunteer examination participation, educational or instructional innovations, and field

organization volunteerism. The PPRAA falls into one of four categories, based on club membership. We'd compete with other clubs in the "over 100 members" category. Over the next few months, Bill will be contacting all of you for submissions which can be used in the scoring, submissions like news clippings, photos, and other write-ups. Bill and the board members have the details on how points are accumulated, and how the judging will work. This is an admirable effort, so please offer all the assistance you can to Bill. Although Bill will be approaching all of you, please help him out if you think you might have information for him.

Lunch Bunch

Lunch Bunch meets on May 11 at 11:30, Country Buffet at the Citadel Crossing Shopping Center, just SE of Galley and Academy Blvd. Contact Ginger Hipszky NØUOD for details. See you there!



Frequency -- The Movie

The movie *Frequency* made its debut in Colorado Springs on Apr 21 at a sneak preview, and opened the last weekend in April. What's special about this movie is that ham radio plays a major role as a medium in which two characters communicate, and we learn of a previously undiscovered capability of ham radio. In the movie, through some unexplainable phenomenon associated with the aurora borealis, sunspots and perhaps the fluttering of butterfly wings in Africa, a son is able to speak into the past with his deceased father. Somewhere in there, the son decides to change whatever it was that killed his firefighter father, but in the process alters some other parts of the past. Something having to do with his mother this time. It's definitely a sci-fi thriller. But don't expect to see Dennis Quaid wearing an HT on his belt. It appears that only an HF rig is used, and only in the scenes where the father and son talk. Nevertheless it's enough to make you wanna go out and see it. You can see some previews on the web at <http://www.frequencymovie.com>

Because of the attention given to ham radio, a number of ham clubs across the nation are planning on setting up demos on the opening night of this movie. Some radio manufacturers are offering considerable prizes to the club that puts on the most spectacular demo on opening night. Because of the short time fuse, the PPRAA is not doing any demo that I'm aware of. The Mountain ARC talked about it at their last club meeting, but as of press time, I'm not sure what will transpire.

What About Propagation?

With sunspot numbers on the rise and the the "mother of all solar storms" (from *Frequency*), doesn't it make you wonder why HF signals will bounce back to Earth, or why some frequencies are suitable for satellite work and others aren't? Here's a quick lesson on ionospheric propagation, or "skip", as some like to call it. Unfortunately this won't explain how to penetrate the time barrier and talk into the past.

Theories for long-haul communications were proposed as far back as 1901 when Marconi made a transatlantic contact. What is known is pretty much based on experimental results at different frequencies and at different times of the day. What we do know is that at night, broadcast band signals are reflected back to Earth, but during the day, the reflections are greatly reduced, or nonexistent. During the day, as frequency goes up, there's a band of frequencies where signals are reflected rather strongly. As frequency goes even higher, signals begin to fade. There'll be a maximum frequency at which the signals are no longer reflected back to Earth. The general band of frequencies reflected during daylight with good signal strength coincides with what we call the HF band, or 3 - 30 MHz. This isn't an absolute range, as we know, frequencies lower than 3 MHz and frequencies higher than 30 MHz do reflect with varying levels of attenuation.

The Kennelly-Heaviside layer of the atmosphere is what's responsible for reflecting radio signals. We know that layer as the ionosphere, first proposed by A.E. Kennelly and Oliver Heaviside (independent of each other) in the early 1900's.

Radio propagation at HF is about as unpredictable (predictable?) as the weather. There are numerous factors involved (e.g., time of day, season, latitude, stage of the 11-year cycle), and their instantaneous state is unpredictable, although there is a cyclic pattern. Much like the weather: you can't be sure it'll rain tomorrow at your house or in Pueblo, but as we get into the severe weather season, you can be pretty sure it's gonna rain somewhere on a nearly daily basis. With HF propagation, you can be pretty sure that as we reach the top of the 11-year sunspot cycle, you'll be able to communicate with Spain on 10m, but predicting the best freq and the time and date is what you can't do.

The ionosphere extends from about 50 km to several thousand km, with the most significant part of it about 90 km to around 1000 km, above the Earth. In this layer are ionized gases, ionized by radiation from space, mostly

from the Sun. Within this layer are several sublayers, and they've been named D (lowest), E and F. During the day, the ionized regions within the F layer are different enough to support two more sublayers, namely the F1 and F2 layers. Why are there layers in the first place? The atmosphere gets less dense with altitude, and at the furthest edges of the atmosphere there are very few other molecules to absorb the radiation from space, so whatever gases exist at those altitudes become ionized, and stay ionized until the radiation levels drop. At lower altitudes the air is more dense with other non-ionized particles, leaving less room for ionized particles. Not all radiation from space makes it to the lower altitudes (again because of the atmosphere), meaning fewer particles are ionized at lower altitudes. So, the layers of more dense ionized particles occur at higher altitudes.

So the ionosphere acts as a reflector. But it reflects differently depending on the wavelength of the signal. (Since frequency and wavelength are directly related, we usually hear that it's frequency dependent, too.) In the same manner that light will bend when traveling through water (like looking at a pencil in a glass of water), so do radio waves bend in the ionosphere. When you look at a pencil in a glass of water, the light rays from the pencil are bent at the place where the water meets the glass. So the pencil appears to be bent. With radio waves in the ionosphere, each different ionized layer bends the radio signal a little. As the signal passes through many different sections of the ionosphere, each one with a slightly different density of ions, the signal is bent increasingly until it ultimately bends back to Earth.

Depending on the frequency of the signal and the average density of the ions, your signal either passes through the ionosphere into space or is reflected back towards the Earth.

Knowing this, how can you predict where your signal might come down? We need to know the critical frequency. The critical, abbreviated as F_c , is the frequency at which a signal sent straight up will no longer reflect back to Earth. Let's say you transmitted at 1.8 MHz straight up, and were able to receive the bounced signal back from the E layer. You slowly increase the frequency, and find that at about 10 MHz it no longer bounces back. You've reached the critical frequency. If you increase the frequency more, you will run into the critical frequencies for the F1 and the F2 layers. Each layer has its own critical frequency. If you knew the time delay between your transmitted signal, and when the bounce was received, you could also calculate the virtual height of the layer.

How does critical frequency relate to the distance you can communicate? Well, it's through yet another special frequency of importance called the maximum usable frequency, or MUF. This is used more often than critical frequency, but it can be approximated if you know the F_c . MUF is approximately $3.6 * F_c$. (Even that varies, depending on the source of your information.) And finally, due to variations in the MUF throughout a day, most of the time you'll be well off if you select a frequency that's about 50 - 85% of the MUF. *de N7LV*
[Part II, in the next Ø-Beat, will continue with a discussion of an MUF chart, and an example or two of how to use them, and a little about the frequencies for space communications.]

Picnic Chairman Needed

Our August 6th picnic is rapidly approaching, but without an engineer to run it, it might derail! Much of the up-front work has already been done. Ron NKØP has taken care of reserving the facility. Now we need a person to coordinate finding a cook or two, figuring out how much food to buy, buying it, picking up the supplies, and spreading the word. We don't want one person to do all of this, naturally. But we do need someone to round up a handful of folks to help. It really is not a big chore. Most of what needs to be done is already documented in the PPRAA club manual, available on the club's web page. If you don't have web access, we can get a copy of it to you. Please contact Mike WV7T or Rick Brown KØSU if you can do this important job. We're counting on you!

PPRAA Net Adds Trivia

As you all know, the PPRAA does have a VHF simplex net on Thursdays at 7 pm on 146.58 MHz. How many of you have actually checked in? How 'bout recently? The net has been getting about a whopping 7 or so folks each week. We should see a few more than that. Those that have been checking in know that Ryan Durbin KCØGLQ has assumed the role of net manager of sorts for the net. He really enjoys running the net, and does it very comfortably now. (The first time was a little rough, but he got over any shyness real fast.) To make the net a little more interesting, Ryan's asking a trivia question at the beginning, and when you check in, give your best guess. Some questions are ham related; others are interesting ones are just about general day-to-day stuff. Like, on the average, how many people are aboard commercial airliners at any moment? Check in and find out! *de N7LV*

Public Service and Emergency Communications Activities

The PPRAA is an ARRL Special Services Club, but it is not an emergency services club itself. The PPRAA supports all amateur radio involvement in public service and emergency communications in any way it can, including reporting activities happening in the region. These columns are based on available knowledge, and the opinions expressed are not necessarily the opinions of RACES, ARES, Skywarn or any other organization or its leadership. Logos used with permission.

Radio Amateur Civil Emergency Service



<http://www.qsl.net/epcraces/>

VHF Net Tuesdays at 1930 on 147.345/448.1 MHz
CMRG repeater

There was no RACES meeting this month due to the NWS spotter training being held a week later on Apr 27. At press time, this training hasn't happened yet, so can't report on it yet. Tom Magnuson KBØZWX will conduct a 2-hr training session certifying you as an NWS spotter. You learn the same basic info as he taught at the Apr 1 session at HP, with less emphasis on the "whys" of the weather and amateur radio net procedures. However

your training qualifies you to report severe WX on any Skywarn net. There will be a picnic on July 16 from 10 to 4 for RACES members and families. A good time was had by all last year; should be the same this year. Still some work to be done on the new equipment console at the OEM. Maybe only a few more Saturdays until it's done. Contact Mark NØNKA or John KBØVGX to find out the status, and when the next work session is scheduled. Please continue to check in to the nets, or check the web page, for the latest information of RACES activities. On Apr 11-12, both PPARES and EPCRACES helped out with a phone outage in Douglas County. The event caused loss of 9-1-1 phone lines in Douglas Co, and calls were being routed to neighboring Sheriff's offices, including El Paso Co. RACES activated and handled some calls. PPARES came up to a state of readiness, and helped establish an initial comm link. One thing learned from this: if support is needed by the Denver area groups, the 448.45 PPFMA machine is an excellent machine. The Colorado Repeater Assn link (145.16/147.225 MHz) definitely is not the way to go until the CRA fixes some link problems. Unfortunately, it was nearly an hour before the initial link was stable. Finally, the El Paso County Sheriff's annual report shows that RACES is worth an estimated \$14,076 in volunteer hours to the county.

Amateur Radio Emergency Service



<http://www.qsl.net/n7lv/dist14.htm>

VHF Net Tuesdays at 1900 on 146.97 MHz
PPFMA repeater

Skywarn training went well. Nearly 100 people attended the in-depth weather spotter training and the net procedures for Skywarn nets. Numerous public service events on the calendar, all the way into September. Too numerous to list here. Mike and Luci Stansberry do most coordinating, or check the web page calendar for details and POCs.

Field Day is All About Emergency Communications

Field Day. For each person you ask, you'll get a different definition and a different reason to participate. But the bottom line is FD is for practicing for emergencies, when all power goes out, setting up a station for the long haul, getting to know how to set up your equipment and operate it, working with others to get traffic through, working with other stations across the country to get the traffic to its destination. You'll find out real fast at Field Day if you're missing something. You'll learn from those that have done this before what they have added to their list of essentials. If you can come out on Friday you can be part of the setup CW station, plus the VHF station. These stations you can't make it Friday, Wes KØHBZ will be but will be doing it as more of a learning station station will be set up on Saturday morning. HF stations, but the third one is primarily to to learn more about it at a much slower pace. affiliation with other clubs or organizations, all MARC/PPRAA Field Day. We especially affiliated with emergency communications are specifically invited. This is, after all, all



of the main stations: the SSB station and the will be set up before FD actually starts. If setting up his trailer as a third station, rather than a primary station. That Points will be earned from all three help people that have never seen FD No matter what your experience or hams are invited to participate in this want to emphasize that those of you groups such as RACES and ARES about emergency communications.

Super Compact, Super Station!



4x4?

On four wheels, it can go just about anywhere. The fully self-contained station can fit easily into the back of a truck, or roll into the Sheriff's office, or even to the local school for a demo.

A very nice program by the Mountain ARC and vice president Jeff Smith KBØYCI. MARC's been working on a portable emergency club station for a while now, and it's finally complete. It was built with grant money received from the Teller County Sheriff's Office, and what a station they built! Thanks to some very nice metal work and some attention to detail, this is a very well equipped station. It sports the following equipment: Icom IC-207H VHF/UHF dual band and IC-2710 VHF/UHF dual band; Bearcat BCT-7 scanner; Cherokee CB; Yaesu FT-847 HF/ VHF/ UHF and matching FC-20 automatic antenna tuner; KAM 98 all-mode TNC; Pyramid 45A power supply; Bencher BY-2 iambic keyer; triplexer; MFJ 12V power strip; A/B antenna switch; 110V AC relay; 5 Workman speakers; 1 GE speaker.



It may not be the most ergonomic design, but everything is within arm's reach. Each drawer extends to reveal patch cables, keyer, headphones and other accessories. A slide-out tray can be used as a desktop. Note the row of speakers across the top; there's also headphone jacks for use in a noisy environment.

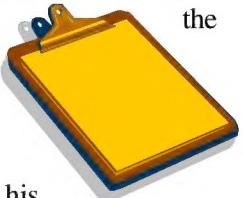
Dits and Bits

- **For Sale:** Icom 38A 220 MHz transceiver, excellent condition, box, mic, but no manual: \$185. KLM 13LBA 2 meter long-boom yagi, needs work: \$35. KLM 20LBX 430-450 MHz long-boom yagi, excellent condition: \$70. Alpha-Delta 10-80m dipole, works great at 100W but doesn't handle 500W: \$50. Vectronics HFT-1500 Hi power tuner, recently rebuilt: \$300. Doug WØMHP, w0mhp@arrl.net, 590-2757 between 8a - 5p.
- **For Sale:** By El Paso Co. SAR: 4 radio lockers, with doors, two 22" x 21" x 68", one about 1 foot shorter, and one about 1/2 the height but slightly wider; commercial grade radio taping system with three tape decks. Best offer. You remove. Larry Dunn, N9HSW, 265-0329, ldunn@divide.net.

General Meeting Minutes

The April 12th meeting of the Pikes Peak Radio Amateur Association was called to order at 7 pm by President Mike WV7T. There were 42 members/visitors present. Mike asked for attendees who had

passed/upgraded their license in the past 4 months, over 10 people stood up. The club gave a great round of applause. (WELL DONE!) A motion was made and approved to accept the March club meeting minutes published in *Ø-Beat*. Mike, WV7T, asked if the club was interested in sponsoring a CW/General class course. Mike said he would teach if there was enough interest. Mike also informed the club of the Armed Forces Day Special Event Station May 13th at the Air Force Academy scenic overlook north of Colorado Springs along I-25 with operation on 10m-20m HF and 146.52 simplex. Rob Roller N7LV was recognized for his efforts as *Ø-Beat* editor. Rick Brown KØSU is the club's new webmaster and suggestions for the site can be directed to him. Rick also informed the club about the VE session on April 15th at the Denver Technical Center. Bob Ryals KIØGF gave a short report on Swapfest asking for volunteers to help set up May 5th and take down May 6th. Rosie WAØMNL is working on a "Ham page" book as a club history project and requested club members make a single page about themselves for inclusion in the book. Ryan, KCØGLQ



encouraged club members to check into the club's simplex net on Thursday nights at 7pm on 146.58 MHz. Jeff NØJLH received the Hammy from Marcia KCØFII. Skywarn training will be held at the Office of Emergency Management Thursday 27 April. WL7LZ informed the club of the availability of his packet BBS/node station atop Fillmore hill. The program was on the MARC portable emergency station presented by MARC Vice President Jeff KBØYCI. Meeting adjourned at 8:54.
Submitted by Rhoda Anderson, KB2BZY, Secretary.

Board Meeting Minutes

[The May board meeting will be held at Sid White's QTH (K4ARM) on Monday May 15. RSVP 495-4147.]

The April 17th board meeting of the Pikes Peak Radio Amateur Association was called to order at 7 pm in the home of Rick Brown KØSU by President Mike WV7T. Board members in attendance: Mike WV7T, Rhoda KB2BZY, Rob N7LV, Rick KØSU, Moe WBØRTF, and Bill KDØJU (proxy for Paula KCØAGG). Absent members: Sid K4ARM, Roger KBØRLF, and Paula KCØAGG. The March board minutes were approved as printed in *Ø-Beat*. Mike WV7T informed the board a Heathkit SB-104 had been donated to the club. The board approved a motion to sell the radio at the club's swapfest. Mike WV7T approached the board to support the club's upcoming General class license course. The board approved up to \$90 for code practice sets and supplies to support the course. There was discussion about a replacement Hammy, club property inventory, and club award by ARRL. Rob N7LV reported he has corresponded with the state regarding the club's incorporation documentation. Rob also stated he would look into arranging a tour of the National Weather Service office in Pueblo. Moe WBØRTF talked about the club's simplex net. Bill KDØJU reported on problems with the swapfest label making program [*Ed: which have since been fixed*]. The board discussed the upcoming club picnic August 6th and that a chairperson to coordinate is needed. Mike stated he has a digital camera now and will take pictures at club functions for newsletter and website. Meeting adjourned at 8:16pm.

Submitted by Rhoda Anderson, KB2BZY, Secretary.

President's Soapbox

I'm presently considering instructing a course for General and possibly the Extra Class licenses. I need to know who would seriously wish to take the courses and follow it through to the end. Another endeavor is a twice-a-month course on Ham Topics. This would

include classroom and outdoor activities in areas many in which hams may not have exposure. What would you new hams like to see and learn about in such a course? The hamfest is coming up fast so get your tickets. Come out Friday and stay Saturday to help with setup/takedown; there are never too many volunteers. Until next month, 73's! *de WV7T*

Treasurer's Report

\$180.77 - \$362.87 = (\$182.10) (ending 03/31/2000)
Income - Expenses = Gain (Loss)



We've renewed our biennial report with the Corporations section of the Secretary of State's office. As implied, that report is good for two years. We've also filed our first Form 990 EZ, which is our income tax form for the IRS. Since we don't have the income levels that are of interest to the IRS (that would be \$25K) there was no financial data supplied. Our raffle ticket sales are a bit slow at this time. We've sold quite a few tickets at some of the hamfests earlier this year, but our biggest sales occur at the hamfest itself. We've got a ways to go in order to break even, so we'll be busy selling as many tickets as we can on hamfest day. We actually will be taking in two types of income: one for the general hamfest entrance fees and table reservations, and raffle ticket sales. The raffle profit we take in must be spent on our chartered purposes by next year. We're currently spending the last few dollars from last year's hamfest spent. If you have any last-minute ideas, we'd like to hear about them. Nonprofit committee meeting: The next nonprofit committee meeting will be at my QTH on May 21. Please RSVP. *de N7LV*

ARRL Web Site Hacked?

Not quite, says the ARRL, but close enough. On the morning of April 24 someone managed to illegally modify the domain name for the ARRL and have all web traffic diverted to a bogus web site, where a crude message was left for those that tried to connect to the ARRL. Since the ARRL server wasn't actually hacked, there were no files lost. There was some disruption to the ARRL's e-mail system though. It appears all arrl.org addresses were affected, but the forwarding aliases (arrl.net) addresses were not bothered.

This isn't the first time a ham radio web site has been tampered with. You may recall that last September the eham.net site had all of its files deleted by intruders in Asia.

Pikes Peak Region Ham Event Calendar

May / June 2000						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6 PPRAA Hamfest!
7	8	9	10 PPRAA Mtg	11 Lunch Bunch	12	13
14 PPRAA Fox Hunt	15 PPRAA Brd Mtg Noon Severe WX Nets Begin	16	17 MARC Mtg	18 RACES Mtg	19 Dayton!	20 Dayton! ARES Plan Writing
21 Dayton!	22	23	24	25	26	27
28	29	30	31	1	2	3
4	5	6	7	8	9	10 PPRAA VE Testing
11 PSE Garden 10-Mile Run	12	13	14 PPRAA Mtg	15 Lunch Bunch RACES Mtg	16	17
18 PPRAA Fox Hunt	19 PPRAA Brd Mtg	20	21 MARC Mtg	22	23	24 Field Day!
25 Field Day!	26	27	28	29	30	

Future Dates to Note: Pikes Peak Hill Climb Jul 4; Club picnic Aug 6; MARC Campfest Aug 18-20.

Membership Application for the Pikes Peak Radio Amateur Association, Inc.		
P.O. Box 16521, Colorado Springs, CO 80935-6521		
Date: _____	<input type="checkbox"/> New Member <input type="checkbox"/> Renewal	In which activities would you like to participate?
Name: _____	<input type="checkbox"/> Field Day ⇒ <input type="checkbox"/>	
Address: _____	<input type="checkbox"/> Demonstrations ⇒ <input type="checkbox"/>	
City: _____ State: _____ Zip: _____	<input type="checkbox"/> Nets or round tables ⇒ <input type="checkbox"/>	
Call: _____ Class: N T + G A E Phone: _____	<input type="checkbox"/> Organize activities ⇒ <input type="checkbox"/>	
Mbr of ARRL? <input type="checkbox"/> Yes <input type="checkbox"/> No E-mail: _____	<input type="checkbox"/> Teach ham classes ⇒ <input type="checkbox"/>	
Additional Family Members to Join/Renew:		
Name: _____ Call: _____ Class: _____ ARRL? _____	<input type="checkbox"/> Full Member \$15: ⇒ <input type="checkbox"/>	
Name: _____ Call: _____ Class: _____ ARRL? _____	<input type="checkbox"/> Family Membership \$18: ⇒ <input type="checkbox"/>	
Name: _____ Call: _____ Class: _____ ARRL? _____	<input type="checkbox"/> Over 65 \$10: ⇒ <input type="checkbox"/>	
<input type="checkbox"/> Over 65 Family \$12: ⇒ <input type="checkbox"/>		
<input type="checkbox"/> Associate \$12: ⇒ <input type="checkbox"/>		
<input type="checkbox"/> Ø-Beat Only \$12: ⇒ <input type="checkbox"/>		
<input type="checkbox"/> ARRL Dues Incl'd \$34: ⇒ <input type="checkbox"/>		
Donation to Club: _____		
<u>Total Enclosed:</u> _____		
Would you like to receive Ø-Beat electronically via e-mail in PDF format instead of a printed copy? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Circle your interests ⇒ HF / V/UHF / FM / SSB / Digital / DX / Contests / Technical / Hardware / Other _____		
Renew your ARRL membership through the PPRAA! Send your ARRL renewal form and your check for the amount due to the ARRL to the PPRAA. Make the check payable to the PPRAA. The PPRAA will forward your renewal form to the ARRL. The PPRAA keeps \$2 as a donation or commission, and pays the difference to the ARRL.		
New and renewing members must submit a completed application form along with your check to the Treasurer. Please Type or Print Clearly!		

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Jess will be closed in May, but look for him at the PTRA swapfest May 6 in Monument!

AMERITRON Amp. AL811H New, 160-10m \$700	KENWOOD TS830S, nice, \$600
BUTTERNUT HF5-B HF beam 10 12 15 17 & 20m good cond. \$150	KENWOOD TS870S, DSP mint, \$1700
HEATHKIT SB220 amp, 10-80m, excellent cond, 2kw, \$450	KENWOOD TS930S, very nice, \$750
ICOM R1 HT Receiver, 100 Hz to 1300 MHz, \$225	KENWOOD 2100, HF SWR / wattmeter, matches most Kenwood, \$75
ICOM 735, w/ hand mic, electronic keyer, & mounting bracket, \$625; w/o keyer & mounting bracket, \$600	MFJ 9406X 6mtr ssb, new \$250, used \$175, CW adapter \$40
ICOM 745, with internal PS, loaded with filters and TCXO, \$600	TUCKER T-3000 Digital Antenna Tuner 3kw PEP, cross-needle meter \$275
ICOM 751A, nice, \$750	YAESU FT101E, xcvr with hand mic, good cond, \$325, also B & EE, \$300 ea
KENWOOD PS 50, 10 amp power supply, \$150	YAESU FT101ZD, digital, great cond, \$450
KENWOOD TS140S, \$550	YAESU FT102, digital, AM/FM, WARC, excellent cond, \$550
KENWOOD TS440S, \$750	YAESU FT109RH, 220 MHz HT, 4w, \$150, with tone encoder installed \$175
KENWOOD TS440S/AT, \$850	YAESU FT736R, nice, 6-2-400 modules, satellite ready, vox & mic, \$1300
KENWOOD TS520, \$325	YAESU FTV707, Transverter, 6m module installed, for FT707-901-902, \$200
KENWOOD TS520SE, 160-10m, \$375	YAESU FT757GX, completely aligned, excellent cond, \$575
KENWOOD TS530SP, digital, WARC, excellent CW/SSB filters, \$550	

Complete line of ARRL books in stock, complete line of Mirage Amps in stock, good stock of new & used 2m and dual band rigs, HF/VHF/UHF accessories, batteries & antennas
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April 2000

Pikes Peak Radio Amateur Association, Inc.
P.O. Box 16521
Colorado Springs, CO 80935-6521 USA

First Class Mail

To: